PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

RTIP ID# *(required)* 47520

Project Description *(clearly describe project)*

The project is located in Riverside County on Interstate 10 from KP 83.3 to 85.4. Within the limits of the proposed project, Interstate 10 is a standard 6-lane freeway with a median running down the center and no high occupancy vehicle (HOV) facilities. All lanes are a standard 3.66-meter (12-foot) with standard 3.0-meter (10-foot) shoulders. The proposed project would reconstruct and realign the interchange at Jefferson Street and Interstate 10 in order to correct existing geometric deficiencies and to mitigate projected operational deficiencies from the anticipated increased traffic demand and congestion from the forecasted growth and development in the area.

Project Alternatives

Alternative 1. This alternative consists of the construction of a new partial cloverleaf-type interchange with loop and directional on-ramps as well as signalization of all study intersections. The proposed typical section of Jefferson Street across Interstate 10 would have 8 standard traffic lanes and a 4.8-meter (15.7-foot) median; refer to Exhibit 1a (Proposed Site Plan – Alternative 1). Two of the proposed eight traffic lanes are due to the partial cloverleaf configuration, which requires dedicated lanes for the loop on-ramps. The new overcrossing will accommodate the ultimate ten-lane facility for Interstate 10, as referenced in the Project Study Report (PSR). This alternative would provide a continuous travel path for westbound traffic on Indio Boulevard transitioning through the interchange to northbound Jefferson Street. Varner Road would be realigned to the north on the western side of Jefferson Street to provide proper intersection spacing between the westbound ramp termini and Varner Road. Construction of the new overcrossing and interchange ramps would require removal of the existing Jefferson Street overcrossing and the northbound Indio Boulevard overcrossing. This alternative will require new rights-of-way for the new interchange ramps and the realignment of Varner Road.

Alternative 2. This alternative consists of the construction of a new modified diamond type interchange with standard diamond ramps and a direct connector for westbound Indio Boulevard traffic to access westbound Interstate 10. Signals are proposed at all intersections. The proposed typical section of Jefferson Street across Interstate 10 will utilize 7 standard traffic lanes and a 4.8-meter (15.7-foot) median; refer to Exhibit 1b (Proposed Site Plan – Alternative 2). One of the proposed seven traffic lanes is due to a free right turn onto the eastbound on-ramp. The new overcrossing will accommodate the ultimate ten-lane facility as referenced in the PSR. This alternative would provide a continuous travel path for westbound traffic onto Interstate 10 from Indio Boulevard via the existing North Indio Boulevard overcrossing. This alternative would require realignment of Varner Road to the north to provide proper intersection spacing between the westbound ramp termini and Varner Road. Construction of the new overcrossing and interchange ramps would require removal of the existing Jefferson Street overcrossing. This alternative will require new rights-of-way for the new interchange ramps and the realignment of Varner Road.

Alternative 3. This alternative consists of the construction of a new modified diamond type interchange with a loop on-ramp providing access to eastbound Interstate 10 and standard diamond ramps as well as signalization of all proposed intersections. The proposed typical section of Jefferson Street across Interstate 10 will utilize seven standard traffic lanes and a variable-width median; refer to Exhibit 1c (Proposed Site Plan – Alternative 3). One of the proposed seven traffic lanes is due to an optional right turn onto the eastbound on-ramp. The new overcrossing will accommodate the ultimate ten-lane facility as referenced in the PSR. In this alternative, the southern portion of Jefferson Street on the northern side of the overcrossing will be realigned to provide a more direct path for the Jefferson Street overcrossing. This alternative would require realignment of Varner Road to the north in order to provide proper intersection spacing between the westbound ramp termini and Varner Road. This alternative also includes construction of standard diamond ramps and a loop ramp. Construction of the new overcrossing and interchange ramps would require removal of the existing Jefferson Street overcrossing. This alternative will require new rights-of-way for the new interchange ramps and the realignment of Varner Road.

No Build Alternative. Consideration was given to the "no-build" alternative that would maintain the existing facility in its current condition. This alternative would not address the projected operational deficiencies at the interchange as development takes place and traffic demand increases. By the year 2030, the intersections associated with the interchange are projected to deteriorate from Level of Service (LOS) B to LOS F. The inadequate capacity and geometric deficiencies of the existing interchange and local street system, when subjected to increased traffic, will contribute to the operational breakdown of the facility and to a higher incidence of congestion related accidents, with significant adverse impacts on the mainline through traffic. Also, this alternative is not consistent with the current and future mobility goals for the region. Therefore, it has been determined that this alternative is not viable.

Type of Project

Reconfigure new interchange.

PM Conformity Hot Spot Analysis – Project Summary for Interagency Consultation

County Riverside	**Narrative Location/Route & Postmiles** The proposed project is located in the Riverside County on Interstate 10 at Jefferson Street from PM 51.7 to 53.1 (KP 83.3 to 85.4). **Caltrans Projects – EA#** 47520		
Lead Agency: City of Indio			
Contact Person Adrienne Dunfee	**Phone#** 760-391-4017	**Fax#** 760-347-5741	**Email** Adunfee@indio.org

Hot Spot Pollutant of Concern *(check one or both)* **PM2.5** **PM10 X**

Federal Action for which Project-Level PM Conformity is Needed *(check appropriate box)*

Categorical Exclusion (NEPA)	**X**	**EA or Draft EIS**	**FONSI or Final EIS**	**PS&E or Construction**	**Other**

Scheduled Date of Federal Action:

Current Programming Dates *as appropriate*

	PE/Environmental	**ENG**	**ROW**	**CON**
Start	2003	2008	2009	2010
End	2009	2009	2010	2012

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*

The purpose of the project is:

- To correct existing geometric deficiencies in the interchange;
- To mitigate projected operational deficiencies from the anticipated increased traffic demand;
- To improve the safety of the interchange;
- To provide a continuous alignment for the Jefferson Street overcrossing;
- To reduce the total number of turning movements in the system; and
- To help achieve goals of the Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) description.

The proposed project is necessary because the increased traffic volumes in conjunction with the limited capacity of the existing interchange are expected to result in the deterioration of traffic operations at the interchange ramps and intersections from LOS B to LOS F by the year 2030. Queuing analysis indicates that by study year 2010 the queue lengths at the Jefferson Street/Varner Road intersection will exceed 350 meters during AM peak conditions and overflow during PM peak conditions. The analysis also indicates that by study year 2030 overflow conditions will exist at the intersection of Jefferson Street and the westbound I-10 ramps.

The close proximity of the Union Pacific railroad track and Bermuda Dunes Airport to the south of I-10 and Varner Road to the north of I-10 constrain and restrict improvements to the interchange in its existing configuration. In addition, the existing Jefferson Street overcrossing is not long enough to accommodate the future widening of I-10 to accommodate the route concept facility. Realignment of Varner Road to the north would also be required to provide proper intersection spacing between the westbound ramp termini and Varner Road. All three alternatives feature geometry based on higher design speeds than the existing configuration. The project alternatives also address projected safety and operational deficiencies, and improve local circulation through the interchange. The movement of Varner Road and improvements constructed with this proposal are expected to provide a LOS D or better at all intersections and ramps. It is recommended that the proposed interchange improvements be implemented; otherwise queues on the exit ramps will increase and would likely impact the I-10 mainline facility.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

The adjoining commercial uses to the north are designated as residential and recreational uses; uses located to the south are also designated residential. Future approved commercial uses are also located to the south.

Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Year 2010 (opening year) volumes, percent of heavy trucks, and volume of heavy trucks are presented in Table 1A (No Build and Alternative 1 - Opening Year Traffic Volumes) and Table 1B (Alternative 2 and Alternative 3 - Opening Year Traffic Volumes).

Table 1A
No Build and Alternative 1 - Opening Year Traffic Volumes

Roadway Segment	No Build			Alternative 1		
	ADT	% Heavy Trucks	# Heavy Trucks	ADT	% Heavy Trucks	# Heavy Trucks
I-10 Mainline						
West of Jefferson Street	85,660	13.0	11,136	85,660	13.0	11,136
East of Jefferson Street	69,340	13.0	9,014	69,340	13.0	9,014
I-10/Jefferson Ramps						
EB Exit	11,610	5.0	581	11,610	5.0	581
EB Entrance	4,340	5.0	217	4,340	5.0	217
WB Exit	12,470	5.0	624	3,610	5.0	181
WB Entrance	12,280	5.0	614	12,280	5.0	614

Source: RBF Consulting, *I-10/Jefferson Street Interchange Configuration Traffic impact Analysis*, November 2, 2006.

Table 1B
Alternative 2 and Alternative 3 - Opening Year Traffic Volumes

Roadway Segment	Alternative 2			Alternative 3		
	ADT	% Heavy Trucks	# Heavy Trucks	ADT	% Heavy Trucks	# Heavy Trucks
I-10 Mainline						
West of Jefferson Street	85,660	13.0	11,136	85,660	13.0	11,136
East of Jefferson Street	69,340	13.0	9,014	69,340	13.0	9,014
I-10/Jefferson Ramps						
EB Exit	11,610	5.0	581	11,610	5.0	581
EB Entrance	4,340	5.0	217	4,340	5.0	217
WB Exit	3,620	5.0	181	3,610	5.0	181
WB Entrance	12,280	5.0	614	12,280	5.0	614

Source: RBF Consulting, *I-10/Jefferson Street Interchange Configuration Traffic impact Analysis*, November 2, 2006.

Table 2 (Opening Year LOS) summarizes forecast year 2010 Build for each alternative and No Build AM peak hour and PM peak hour average stopped delay per vehicle, and corresponding LOS of the study intersections.

Table 2
Opening Year LOS

Study Intersection	No-Build		Alternative 1		Alternative 2		Alternative 3	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS
Jefferson St / Varner Rd	407.6 - F	OVRFL - F	19.9 - B	21.5 - C	20.5 - C	22.1 - C	20.2 - C	22.2 - C
Jefferson St / I-10 WB Ramps	18.4 - C	41.8 - E	05.5 - A	4.4 – A	9.3 - A	6.5 - A	16.5 - B	14.9 - B
Jefferson St / I-10 EB Ramps	16.7 - C	120.1 - F	4.3 - A	4.5 - A	8.8 - A	6.5 - A	3.3 - A	2.7 - A
Indio Blvd / Jefferson St	20.8 - C	25.6 - C	15.6 - B	15.3 - B	13.8 - B	15.4 - B	15.8 - B	14.4 - B

Source: RBF Consulting, *I-10/Jefferson Street Interchange Configuration Traffic impact Analysis*, November 2, 2006.

RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility

Year 2030 (horizon year) volumes, percent of heavy trucks, and volume of heavy trucks are presented in Table 3A (No Build and Alternative 1 - Horizon Year Traffic Volumes) and Table 3B (Alternative 2 and Alternative 3 - Horizon Year Traffic Volumes).

Table 3A
No Build and Alternative 1 - Horizon Year Traffic Volumes

Roadway Segment	No Build			Alternative 1		
	ADT	% Heavy Trucks	# Heavy Trucks	ADT	% Heavy Trucks	# Heavy Trucks
I-10 Mainline						
West of Jefferson Street	146,000	13.0	18,980	146,000	13.0	18,980
East of Jefferson Street	112,300	13.0	14,599	112,300	13.0	14,599
I-10/Jefferson Ramps						
EB Exit	27,010	5.0	1,351	27,010	5.0	1,351
EB Entrance	6,210	5.0	311	6,210	5.0	311
WB Exit	17,430	5.0	872	5,570	5.0	279
WB Entrance	20,720	5.0	1,036	20,720	5.0	1,036

Source: RBF Consulting, *I-10/Jefferson Street Interchange Configuration Traffic impact Analysis*, November 2, 2006.

Table 3B
Alternative 2 and Alternative 3 - Horizon Year Traffic Volumes

Roadway Segment	Alternative 2			Alternative 3		
	ADT	% Heavy Trucks	# Heavy Trucks	ADT	% Heavy Trucks	# Heavy Trucks
I-10 Mainline						
West of Jefferson Street	146,000	13.0	18,980	146,000	13.0	18,980
East of Jefferson Street	112,300	13.0	14,599	112,300	13.0	14,599
I-10/Jefferson Ramps						
EB Exit	27,010	5.0	1,351	27,010	5.0	1,351
EB Entrance	6,210	5.0	311	6,210	5.0	311
WB Exit	5,570	5.0	279	5,570	5.0	279
WB Entrance	20,720	5.0	1,036	20,720	5.0	1,036

Source: RBF Consulting, *I-10/Jefferson Street Interchange Configuration Traffic impact Analysis*, November 2, 2006.

Table 4 (Horizon Year LOS) summarizes forecast year 2030 Build for each alternative and No Build AM peak hour and PM peak hour average stopped delay per vehicle, and corresponding LOS of the study intersections.

Table 4
Horizon Year LOS

Study Intersection	No-Build		Alternative 1		Alternative 2		Alternative 3	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS	Delay - LOS
Jefferson St / Varner Rd	OVRFL - F	OVRFL - F	29.1 - C	33.6- C	23.4 - C	33.1 - C	28.3 - C	34.3 - C
Jefferson St / I-10 WB Ramps	OVRFL - F	OVRFL - F	7.6 - A	7.8 – A	7.1 - A	8.5 - A	22.6 - C	28.3 - C
Jefferson St / I-10 EB Ramps	625.7 - F	1032.0 - F	7.8 - A	12.5 - B	16.5 - B	22.9 - C	9.2 - A	12.2 - B
Indio Blvd / Jefferson St	44.1 - D	107.8 - F	17.8 - B	19.9 - B	19.8 - B	25.2 - C	18.2 - B	19.5 - B

Source: RBF Consulting, *I-10/Jefferson Street Interchange Configuration Traffic impact Analysis*, November 2, 2006.

Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

Refer to Tables 1A, 1B, and 2 above.

RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT

Refer to Tables 3A, 3B, and 4 above.

Describe potential traffic redistribution effects of congestion relief *(impact on other facilities)*

Some traffic delays can be expected during construction of the project. However, the traffic impacts during construction are only temporary in nature and will cease upon completion of construction activities.

During the operational phase, the proposed project would result in the modification of the existing entrance and exit ramps at the I-10/Jefferson Street interchange. No modifications to the existing I-10 mainline are planned as part of the project. Thus, local traffic would not be significantly redistributed.

Comments/Explanation/Details *(attach additional sheets as necessary)*

Conformity determinations require the analysis of direct and indirect emissions associated with the proposed project and compare them to the without project condition. If the total of direct and indirect emissions from the project reaches or exceeds regionally significant thresholds, the Lead Agency must perform a conformity determination to demonstrate the positive conformity of the federal action.

The project is included in the RTP (RTP ID 47520). The project is also programmed within the SCAG adopted 2006 Regional Transportation Improvement Program (RTIP). The RTIP is a capital listing of all transportation projects proposed over a six-year period for SCAG. The projects include highway improvements, transit, rail and bus facilities, high occupancy vehicle lanes, signal synchronization, intersection improvements, freeway ramps, etc. These projects constitute a large investment of public funds. The project is included in the RTIP for fiscal year FY 2004/05-2007/08 as a State Highway Project:

> #47520: IN INDIO AT I-10/JEFFERSON ST IC- RECON/WIDEN IC 2 TO 6 LNS (Sun City Blvd to UPRR bridge), WIDEN RAMPS 1 TO 2 & 3 LNS, ADD NEW WB & EB ENTRY RAMPS & WIDEN VARNER RD 2 TO 4 LNS (EA: 47520, PPNO: 0053A). Model No. R290.

The project is also included within SCAG's RTP as a State Highway Project. The current Code of Federal Regulations (40 CFR 93.126) stipulates that a conformity determination with State or Federal Implementation Plans (SIP or FIP) must be made for a project that involves federal funding. The project is included in the RTIP, and the conformity and associated analysis is part of the Federal Transportation Improvement Program (FTIP) approval process.

Within the project limits, the City of Indio 2020 General Plan Circulation Element states the ultimate facility configuration for Jefferson Street is an Augmented Major (A) with a design speed of 90 km/h (55 mph). These improvements have not been programmed by the City, but are likely to be implemented as conditions of future development.

As previously stated, the queuing analysis indicates that by study year 2010 the queue lengths at the Jefferson Street/Varner Road intersection would exceed 350 meters during AM peak conditions and overflow during PM peak conditions, and by study year 2030 the overflow conditions would exist at the intersection of Jefferson Street and the westbound I-10 ramps. With the proposed improvements, the study intersections are forecast to operate at an acceptable LOS (LOS C or better) for year 2010 and year 2030. Although the I-10 mainline experiences heavy truck traffic of approximately 13 percent, the proposed project does not involve any modifications to the mainline. Rather, the exit and entrance ramps that will be modified experience approximately 5 percent heavy truck traffic. Note that this interchange does not directly serve any ports, rail yards, or other significant sources of particulate matter.

Based upon the information provided above, the project is not expected to introduce significant amounts of diesel truck traffic and is not considered a project of significant concern per the definition contained within 40 CFR 93.123(b)(1). Thus, a less than significant impact with respect to $PM_{2.5}$ and PM_{10} would occur.

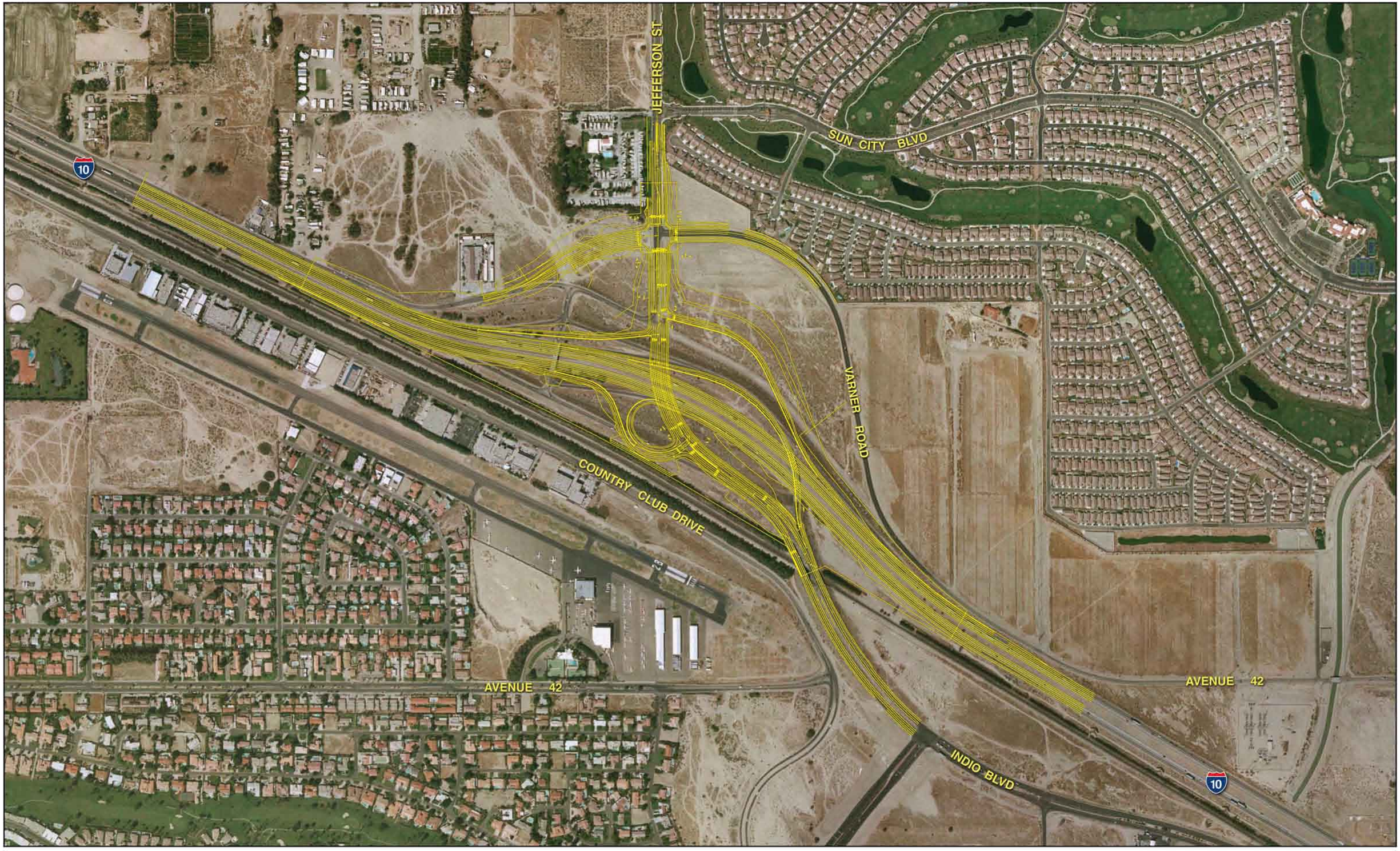
0 600'
APPROXIMATE

3/5/07 JN 10-101100-13789

I-10/JEFFERSON STREET INTERCHANGE IMPROVEMENTS

Proposed Site Plan - Alt. 1

Exhibit 1a



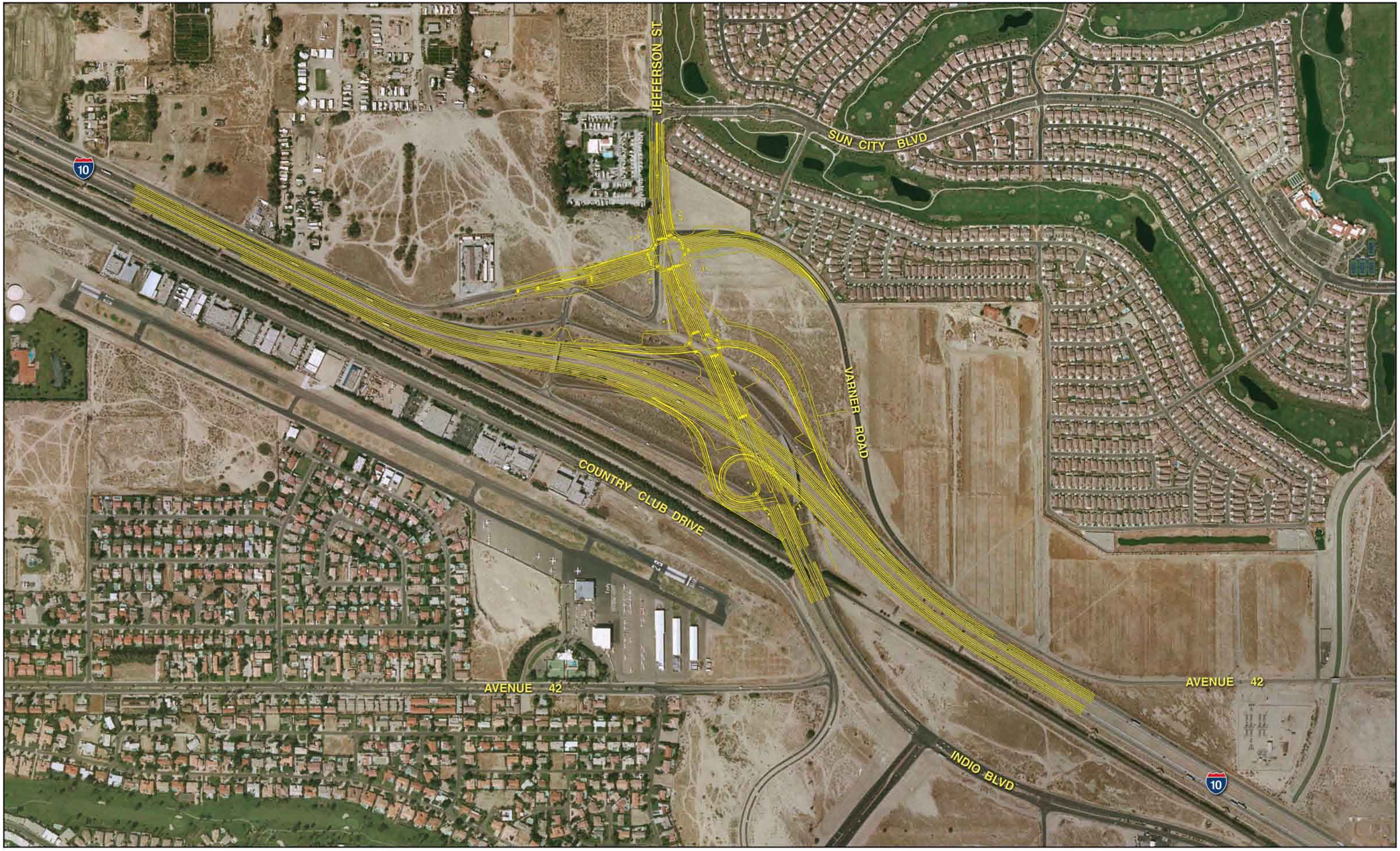
0 600'
APPROXIMATE

3/5/07 JN 10-101100-13789

I-10 / JEFFERSON STREET INTERCHANGE IMPROVEMENTS

Proposed Site Plan - Alt. 2

Exhibit 1b



0 600'
APPROXIMATE

3/5/07 JN 10-101100-13789

I-10/JEFFERSON STREET INTERCHANGE IMPROVEMENTS

Proposed Site Plan - Alt. 3

Exhibit 1c